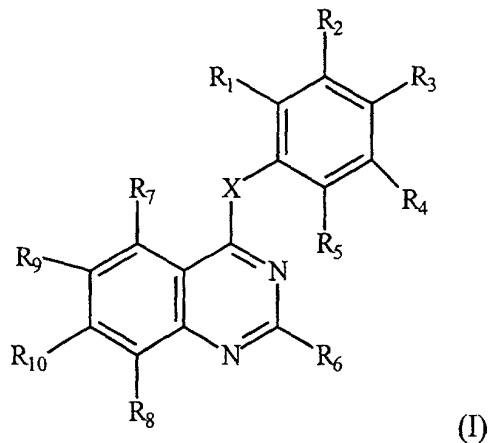


## CLAIMS

What is claimed is:

1. A method comprising inhibiting c-jun activation in mammalian or avian cells by contacting the cells with a substance that inhibits the activity of Janus family kinase 3 (JAK-3).
2. The method of claim 1 wherein the c-jun activation results from exposure of the cells to ara-C, a topoisomerase II inhibitor, ultraviolet radiation, an alkylating agent, or ionizing radiation.
3. The method of claim 1 wherein the c-jun activation results from exposure of the cells to ultraviolet radiation or ionizing radiation.
4. The method of claim 1 wherein the contacting is performed *in vitro*.
5. The method of claim 1 wherein the contacting is performed *in vitro*.
6. The method of claim 2 wherein the contacting occurs prior to the exposure.
7. The method of claim 2 wherein the contacting occurs after the exposure.
8. The method of claim 1 wherein the substance is a protein.

9. The method of claim 1 wherein the substance is a compound of formula I:



wherein

X is HN,  $R_{11}N$ , S, O,  $CH_2$ , or  $R_{11}CH$ ;

R<sub>11</sub> is hydrogen, (C<sub>1</sub>-C<sub>4</sub>)alkyl, or (C<sub>1</sub>-C<sub>4</sub>)alkanoyl;

$R_1$ - $R_8$  are each independently hydrogen, hydroxy, mercapto, amino, nitro,  $(C_1-C_4)$ alkyl,  $(C_1-C_4)$ alkoxy,  $(C_1-C_4)$ alkylthio, or halo; wherein two adjacent groups of  $R_1$ - $R_5$  together with the phenyl ring to which they are attached may optionally form a fused ring, for example forming a naphthyl or a tetrahydronaphthyl ring; and further wherein the ring formed by the two adjacent groups of  $R_1$ - $R_5$  may optionally be substituted by 1, 2, 3, or 4 hydroxy, mercapto, amino, nitro,  $(C_1-C_4)$ alkyl,  $(C_1-C_4)$ alkoxy,  $(C_1-C_4)$ alkylthio, or halo; and

R<sub>9</sub> and R<sub>10</sub> are each independently hydrogen, (C<sub>1</sub>-C<sub>4</sub>)alkyl, (C<sub>1</sub>-C<sub>4</sub>)alkoxy, halo, or (C<sub>1</sub>-C<sub>4</sub>)alkanoyl; or R<sub>9</sub> and R<sub>10</sub> together are methylenedioxy; or a pharmaceutically acceptable salt thereof.

10. The method of claim 1 wherein the substance is 4-(4'-hydroxylphenyl)-amino-6,7-dimethoxyquinazoline or 4-(3'-bromo-4'-hydroxylphenyl)-amino-6,7-dimethoxyquinazoline; or a pharmaceutically acceptable salt thereof.

11. The method of claim 1 wherein the cells are mammalian.

12. The method of claim 1 wherein the cells are human.
13. The method of claim 1 wherein the cells are avian.
14. A therapeutic method for preventing or treating a pathological condition in a mammal wherein c-jun activation is implicated and inhibition of its activation is desired comprising administering to a mammal in need of such therapy, an effective amount of a substance that inhibits the activity of JAK-3.